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10/025,599	12/18/2001	Robert A. Marshall	062891.0574	7923

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EXAMINER	
MOORE JR, MICHAEL J	

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/025,599	MARSHALL ET AL.	
	Examiner	**Art Unit**	
	MICHAEL J. MOORE JR	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-16 and 45-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-16 and 45-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims **1, 2, 4, and 7-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Muntz (U.S. 6,532,215) in view of McMillian et al. (U.S. 6,229,814) (hereinafter "McMillian") and in further view of Li (U.S. 2002/0118819).

Regarding claim **1**, *Muntz* teaches a device (line card) in Figure 4 having a digital signal processor 28.

Muntz also teaches a transmit channel between DAC 32 and line driver 46 (first amplifier) as well as a receive channel between ADC 34 and line receiver 48 (second

amplifier) coupled via hybrid coupler 50 to a medium 58 (combined channel) as shown in Figure 4.

Muntz also teaches POTS filter 54 (electrical component) connected to medium 58 of Figure 4.

Muntz also teaches switch 100 within medium 58 (combined channel) as shown in Figure 4.

Muntz also teaches the transmission of a TDR stimulus pulse 40 (test signal) from DAC 32 to line driver 46 of Figure 2 via multiplexer 42 and on to medium 58 (combined channel) as spoken of on column 8, lines 12-29.

Muntz also teaches the detection of reflections (resulting signal indicating potential fault conditions) encountered in the signal by DSP 28 (digital signal processor) of Figure 2 as spoken of on column 8, lines 30-49.

Muntz does not teach terminating the combined channel with a termination network that has a desired impedance.

However, *McMillian* teaches a system in Figure 3 used for DSL line testing, where tip and ring leads of a test bus 80 (combined channel) are coupled to link impedance simulation circuits 71 and 75 (termination network) comprising resistor-capacitor networks that are controllably configured to provide a prescribed test bus termination impedance as spoken of on column 4, line 59 – column 5, line 4.

These references are considered to be analogous art in that they are both concerned with the use of test signaling to detect fault conditions in a DSL network environment.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

While *McMillian* teaches that the above termination network may be configured to provide particular test bus impedance, *McMillian* does not explicitly teach where the desired impedance is approximately equal to a characteristic impedance of a communication line conventionally used with the line card, and where this characteristic impedance is 100 ohms.

However, *Li* teaches where the impedance of a subscriber line in the xDSL band is known to fall in the range of 100-135 ohms as spoken of on page 3, paragraph 31.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to combine the impedance teachings of *Li* with the teachings of *Muntz* in view of *McMillian* to provide a termination circuit having matched impedance that provides accurate testing of a DSL system.

Regarding claim **2**, *Muntz* further teaches a hybrid coupler 50 coupling medium 58 (combined channel) to transmit and receive channels as shown in Figure 4.

Regarding claim **4**, *Muntz* further teaches switch 100 (connector) within medium 58 (combined channel) as shown in Figure 4.

Regarding claim **7**, *Muntz* further teaches the transmission of a TDR stimulus pulse 40 (test signal) from DAC 32 to line driver 46 of Figure 2 via multiplexer 42 and on to medium 58 (combined channel) as spoken of on column 8, lines 12-29.

Regarding claims **8-10**, *Muntz* further teaches the detection of reflections (resulting signal indicating potential fault conditions) encountered in the signal by DSP 28 (digital signal processor) of Figure 2 as spoken of on column 8, lines 30-49.

Regarding claim **11**, *Muntz* further teaches filter network 36 within the transmit channel of device 14 as shown in Figure 4.

Regarding claim **12**, *Muntz* further teaches filter network 44 within the receive channel of device 14 as shown in Figure 4.

Regarding claim **13**, *Muntz* further teaches switch 100 within medium 58 (combined channel) as shown in Figure 4 as well as the detection of reflections (resulting signal indicating potential fault conditions) encountered in the signal by DSP 28 (digital signal processor) of Figure 2 as spoken of on column 8, lines 30-49.

Regarding claim **14**, *Muntz* further teaches the comparison of the actual characteristic impedances (detected signal) in medium 58 to predetermined characteristic impedances (expected signal) as spoken of on column 10, lines 6-22.

Regarding claim **15**, *Muntz* does not teach a termination network formed on the line card.

However, *McMillian* teaches the link impedance simulation circuits 71 and 75 (termination network) of the multi-circuit line card shown in Figure 3.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

Regarding claim **16**, *Muntz* does not teach a termination network formed external to the line card.

However, *McMillian* teaches the link impedance simulation circuits 71 and 75 (termination network) of the multi-circuit line card shown in Figure 3.

McMillian does not explicitly teach where the termination network is external to the line card.

However, it would have been obvious to someone of ordinary skill in the art, given the teachings of *McMillian*, to have the termination circuit external rather than internal to the system in order to make the termination network modular in design for use with testing multiple line cards.

4. Claims **45-62 and 64-66** are rejected under 35 U.S.C. 103(a) as being unpatentable over Muntz (U.S. 6,532,215) in view of McMillian et al. (U.S. 6,229,814) (hereinafter “McMillian”).

Regarding claim **45**, *Muntz* teaches the network diagnostics mode of the device of Figure 2 containing a transmit channel between DAC 32 and line driver 46 as well as a receive channel between ADC 34 and line receiver 48 coupled via hybrid coupler 50

to a medium 58 (combined channel) as shown in Figure 2 and spoken of on column 4, lines 26-67.

Muntz also teaches the transmission of a TDR stimulus pulse 40 (test signal) from DAC 32 to line driver 46 of Figure 2 via multiplexer 42 and on to medium 58 (combined channel) as spoken of on column 8, lines 12-29.

Muntz also teaches the detection of reflections (indicate potential fault conditions) encountered in the signal by DSP 28 (digital signal processor) of Figure 2 as spoken of on column 8, lines 30-49.

Muntz does not teach terminating the combined channel with a termination circuit, the termination circuit having an impedance and comprising one or more resistors and one or more capacitors.

However, *McMillian* teaches a system in Figure 3 used for DSL line testing, where tip and ring leads of a test bus 80 (combined channel) are coupled to link impedance simulation circuits 71 and 75 (termination network) comprising resistor-capacitor networks that are controllably configured to provide a prescribed test bus termination impedance as spoken of on column 4, line 59 – column 5, line 4.

These references are considered to be analogous art in that they are both concerned with the use of test signaling to detect fault conditions in a DSL network environment.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip

and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

Regarding claim **46**, *Muntz* further teaches the detection of reflections (indicate potential fault conditions in line 58) encountered in the signal by DSP 28 (digital signal processor) of Figure 2 as spoken of on column 8, lines 30-49 as well as column 10, lines 6-22.

Regarding claim **47**, *Muntz* further teaches the comparison of actual characteristic impedances (detected signal) in medium 58 to predetermined characteristic impedances (expected signal) as spoken of on column 10, lines 6-22.

Regarding claim **48**, *Muntz* further teaches POTS filter 54 of Figure 2 that permits signals to propagate to medium 58 from hybrid coupler 50 as spoken of on column 6, lines 19-25.

Regarding claim **49**, *Muntz* further teaches the comparison of the actual characteristic impedances (detected signal) in medium 58 to predetermined characteristic impedances as spoken of on column 10, lines 6-22.

Regarding claim **50**, *Muntz* further teaches communication network link 12 (termination circuit) of Figure 2 coupled to medium 58 (input line) having an impedance as spoken of on column 9, lines 53-61.

Regarding claim **51**, *Muntz* further teaches the high impedance fault conditions (open) spoken of on column 10, lines 6-11.

Regarding claim **52**, *Muntz* further teaches communication network link 12 (termination circuit) of Figure 2 coupled to medium 58 having an impedance as spoken

of on column 9, lines 53-61 as well as switch 100 coupled to network link 12 as shown in Figure 4.

Regarding claim **53**, *Muntz* further teaches switch 100 of Figure 4 that permits the transmit signal 40 to be transmitted to the medium 58 without having to propagate through the network 54 as spoken of on column 12, lines 17-27.

Regarding claim **54**, *Muntz* further teaches the low impedance fault conditions (short) spoken of on column 10, lines 6-11.

Regarding claim **55**, *Muntz* teaches the network diagnostics mode of the device of Figure 2 containing a transmit channel between DAC 32 and line driver 46 as well as a receive channel between ADC 34 and line receiver 48 coupled via hybrid coupler 50 to a medium 58 (combined channel) as shown in Figure 2 and spoken of on column 4, lines 26-67.

Muntz further teaches communication network link 12 of Figure 2 coupled to a communication network as well as a medium 58 (combined channel) as shown in Figure 2.

Muntz further teaches the transmission of a TDR stimulus pulse 40 (test signal) from DAC 32 to line driver 46 of Figure 2 via multiplexer 42 and on to medium 58 (combined channel) as spoken of on column 8, lines 12-29.

Muntz further teaches switch 100 of Figure 4 that permits the transmit signal 40 to be transmitted to the medium 58 without having to propagate through the network 54 as spoken of on column 12, lines 17-27.

Muntz further teaches the detection of reflections (indicate potential fault conditions) encountered in the signal 40 by DSP 28 of Figure 2 as spoken of on column 8, lines 30-49.

Muntz further teaches the sending of a signal by line receiver 48 (second switch) either via filter network 44 (filter) to multiplexer 38, or directly to multiplexer 38 while bypassing the filter network 44 as shown in Figure 2 and spoken of on column 4, lines 61-67.

Muntz does not teach terminating the combined channel with a termination circuit, the termination circuit having an impedance and comprising one or more resistors and one or more capacitors.

However, *McMillian* teaches a system in Figure 3 used for DSL line testing, where tip and ring leads of a test bus 80 (combined channel) are coupled to link impedance simulation circuits 71 and 75 (termination network) comprising resistor-capacitor networks that are controllably configured to provide a prescribed test bus termination impedance as spoken of on column 4, line 59 – column 5, line 4.

These references are considered to be analogous art in that they are both concerned with the use of test signaling to detect fault conditions in a DSL network environment.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip

and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

Regarding claim **56**, *Muntz* further teaches the detection of reflections (indicate potential fault conditions in line 58) encountered in the signal by DSP 28 (digital signal processor) of Figure 2 as spoken of on column 8, lines 30-49 as well as column 10, lines 6-22.

Regarding claim **57**, *Muntz* further teaches the channel between DAC 32 and line driver 46 of Figure 2 containing a path through filter network 36 as well as a direct path (bypass) to multiplexer 42.

Regarding claim **58**, *Muntz* further teaches the comparison of the actual characteristic impedances (test signal) in medium 58 to predetermined characteristic impedances as spoken of on column 10, lines 6-22.

Regarding claim **59**, *Muntz* further teaches the comparison of the actual characteristic impedances (detected signal) in medium 58 to predetermined characteristic impedances (expected signal) as spoken of on column 10, lines 6-22.

Regarding claim **60**, *Muntz* teaches the network system 10 of Figure 1 containing device 14 (line card).

Muntz also teaches the network diagnostics mode of the device of Figure 2 containing a transmit channel between DAC 32 and line driver 46 as well as a receive channel between ADC 34 and line receiver 48 coupled via hybrid coupler 50 to a medium 58 (combined channel) as shown in Figure 2 and spoken of on column 4, lines 26-67.

Muntz also teaches communication network link 12 of Figure 2 coupled to a communication network as well as a medium 58 (combined channel) having an impedance as shown in Figure 2 and spoken of on column 9, lines 53-61.

Muntz also teaches switch 100 of Figure 4 that permits the transmit signal 40 to be transmitted to the medium 58 without having to propagate through the network 54 as spoken of on column 12, lines 17-27.

Muntz also teaches the detection of reflections (indicate potential fault conditions) encountered in the signal 40 by DSP 28 of Figure 2 as spoken of on column 8, lines 30-49.

Muntz also teaches the channel between DAC 32 (switch) and line driver 46 of Figure 2 containing a path through filter network 36 as well as a direct path (bypass) to multiplexer 42.

Muntz does not teach terminating the combined channel with a termination circuit, the termination circuit having an impedance and comprising one or more resistors and one or more capacitors.

However, *McMillian* teaches a system in Figure 3 used for DSL line testing, where tip and ring leads of a test bus 80 (combined channel) are coupled to link impedance simulation circuits 71 and 75 (termination network) comprising resistor-capacitor networks that are controllably configured to provide a prescribed test bus termination impedance as spoken of on column 4, line 59 – column 5, line 4.

These references are considered to be analogous art in that they are both concerned with the use of test signaling to detect fault conditions in a DSL network environment.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

Regarding claim **61**, *Muntz* further teaches communication network link 12 of Figure 2 coupled to medium 58 (telephone line) having an impedance as spoken of on column 9, lines 53-61.

Regarding claim **62**, *Muntz* further teaches POTS filter 54 as well as switch 100 (components) coupled to medium 58 (combined channel) shown in Figures 2 and 4, respectively.

Regarding claim **64**, *Muntz* further teaches hybrid coupler 50 shown in Figure 2.

Regarding claim **65**, *Muntz* teaches the network diagnostics mode of the device of Figure 2 containing a transmit channel between DAC 32 and line driver 46 as well as a receive channel between ADC 34 and line receiver 48 coupled via hybrid coupler 50 to a medium 58 (combined channel) as shown in Figure 2 and spoken of on column 4, lines 26-67.

Muntz also teaches communication network link 12 of Figure 2 coupled to a communication network as well as a medium 58 (combined channel) as shown in Figure 2.

Muntz also teaches the transmission of a TDR stimulus pulse 40 (test signal) from DAC 32 to line driver 46 of Figure 2 via multiplexer 42 and on to medium 58 (combined channel) as spoken of on column 8, lines 12-29.

Muntz also teaches switch 100 of Figure 4 that permits the transmit signal 40 to be transmitted to the medium 58 without having to propagate through the network 54 as spoken of on column 12, lines 17-27.

Muntz also teaches the detection of reflections (indicate potential fault conditions) encountered in the signal 40 by DSP 28 of Figure 2 as spoken of on column 8, lines 30-49.

Muntz also teaches the channel between DAC 32 (second switch) and line driver 46 of Figure 2 containing a path through filter network 36 as well as a direct path (bypass) to multiplexer 42.

Muntz does not teach terminating the combined channel with a termination circuit, the termination circuit having an impedance and comprising one or more resistors and one or more capacitors.

However, *McMillian* teaches a system in Figure 3 used for DSL line testing, where tip and ring leads of a test bus 80 (combined channel) are coupled to link impedance simulation circuits 71 and 75 (termination network) comprising resistor-

capacitor networks that are controllably configured to provide a prescribed test bus termination impedance as spoken of on column 4, line 59 – column 5, line 4.

These references are considered to be analogous art in that they are both concerned with the use of test signaling to detect fault conditions in a DSL network environment.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

Regarding claim **66**, *Muntz* teaches the network system 10 of Figure 1 containing device 14 (line card).

Muntz also teaches the network diagnostics mode of the device of Figure 2 containing a transmit channel between DAC 32 and line driver 46 as well as a receive channel between ADC 34 and line receiver 48 coupled via hybrid coupler 50 to a medium 58 (combined channel) as shown in Figure 2 and spoken of on column 4, lines 26-67.

Muntz also teaches communication network link 12 of Figure 2 coupled to a communication network as well as a medium 58 (combined channel) having an impedance as shown in Figure 2 and spoken of on column 9, lines 53-61.

Muntz also teaches switch 100 of Figure 4 that permits the transmit signal 40 to be transmitted to the medium 58 without having to propagate through the network 54 as spoken of on column 12, lines 17-27.

Muntz also teaches the detection of reflections (indicate potential fault conditions) encountered in the signal 40 by DSP 28 of Figure 2 as spoken of on column 8, lines 30-49.

Muntz also teaches the sending of a signal by line receiver 48 (associated switch) either via filter network 44 (filter) to multiplexer 38, or directly to multiplexer 38 while bypassing the filter network 44 as shown in Figure 2 and spoken of on column 4, lines 61-67.

Muntz does not teach terminating the combined channel with a termination circuit, the termination circuit having an impedance and comprising one or more resistors and one or more capacitors.

However, *McMillian* teaches a system in Figure 3 used for DSL line testing, where tip and ring leads of a test bus 80 (combined channel) are coupled to link impedance simulation circuits 71 and 75 (termination network) comprising resistor-capacitor networks that are controllably configured to provide a prescribed test bus termination impedance as spoken of on column 4, line 59 – column 5, line 4.

These references are considered to be analogous art in that they are both concerned with the use of test signaling to detect fault conditions in a DSL network environment.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to apply the termination network teachings of *McMillian* to the above teachings of *Muntz* in order to provide effective testing of the tip and ring portions of the DSL line while spoofing the presence of a network or customer interface, thereby reducing the amount of overhead sent over the data network.

5. Claim **3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Muntz (U.S. 6,532,215) in view of McMillian et al. (U.S. 6,229,814) (hereinafter “McMillian”) in view of Li (U.S. 2002/0118819) and in further view of Itri (U.S. 6,909,781).

Regarding claim **3**, *Muntz* in view of *McMillian* in view of *Li* teaches the limitations described above.

Muntz in view of *McMillian* in view of *Li* does not teach where the one or more electrical components in the combined channel comprise a transformer.

However, *Itri* teaches a DSL line testing system in Figure 8 containing a scaling transformer coupled to hybrid 218.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to use a scaling transformer as in *Itri* in the system of *Muntz* in view of *McMillian* in view of *Li* in order to provide a way to adjust the voltage of incoming and outgoing signals to an appropriate level.

6. Claim **63** is rejected under 35 U.S.C. 103(a) as being unpatentable over Muntz (U.S. 6,532,215) in view of McMillian et al. (U.S. 6,229,814) (hereinafter "McMillian") and in further view of Itri (U.S. 6,909,781).

Regarding claim **63**, *Muntz* in view of *McMillian* teaches the limitations described above.

Muntz in view of *McMillian* does not teach where the one or more electrical components in the combined channel comprise a transformer.

However, *Itri* teaches a DSL line testing system in Figure 8 containing a scaling transformer coupled to hybrid 218.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to use a scaling transformer as in *Itri* in the system of *Muntz* in view of *McMillian* in order to provide a way to adjust the voltage of incoming and outgoing signals to an appropriate level.

Response to Arguments

7. Applicant's arguments with respect to claims **1-4, 7-16, and 45-66** have been considered but are moot in view of the new ground(s) of rejection provided above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL J. MOORE, JR., whose telephone number is (571)272-3168. The examiner can normally be reached on Monday-Friday (7:30am - 4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached at (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J. Moore, Jr./
Examiner, Art Unit 2619